

American Geophysical Union Fall Meeting

December 9 – 13, 2024, Washington D.C.

The University of Oklahoma

Wednesday, December 11, 2024

[Mapping Historical Land-Use and Land-Cover Change in Central Oklahoma: Integrating Historical Geospatial Data and Modern Aerial Imagery, 1871-2023](#)

Adam Anwar¹, Timothy R Filley² and Bruce Hoagland¹, (1)University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, United States, (2)The University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 08:30 – 12:20
- Hall B-C (Poster Hall) (Convention Center)

[A34A](#)

[Advanced AI/ML for High-Impact Weather Prediction and Observation II Oral](#)

Jiayi Hu, Cooperative Institute for Severe and High-Impact Weather Research and Operations, University of Oklahoma, and NOAA/OAR National Severe Storms Laboratory, Norman, Oklahoma, Norman, United States, Yixin Wen, University of Florida, Department of Geography, Gainesville, United States, Xiaoming Shi, The Hong Kong University of Science and Technology, Hong Kong, China and Hui Su, The Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong

Session Proposal

- Wednesday, 11 December 2024
- 16:00 – 17:30
- 151 B (Convention Center)

[NS31B](#)

[Geophysical Characterization and Monitoring of Natural Hazards I Poster](#)

Sebastian Uhlemann, Lawrence Berkeley National Laboratory, Berkeley, United States, Sina Saneiyan, University of Oklahoma, School of Geosciences, Norman, OK, United States, Angela Perrone, CNR Institute of Methodologies for Environmental Analysis, Potenza, Italy and Xavier Comas, Florida Atlantic University, Geosciences, Boca Raton, FL, United States

Session Proposal

- Wednesday, 11 December 2024
- 08:30 – 12:20
- Hall B-C (Poster Hall) (Convention Center)

[GC33I](#)

[Earth System Predictability Across Timescales for Climate Security: Grand Challenges and Recent Advancements II Poster](#)

Jadwiga Richter, U. S. National Science Foundation National Center for Atmospheric Research, Boulder, United States, Zhaoxia Pu, University of Utah, Salt Lake City, UT, United States, Kathleen Peggion, George Mason University, Fairfax, VA, United States, Kate A Brauman, University of Alabama, Global Water Security Center, Tuscaloosa, AL, United States and Gabrielle Brown, University of Oklahoma, School of Meteorology, Norman, United States

Session Proposal

- Wednesday, 11 December 2024
- 13:40 – 17:30
- Hall B-C (Poster Hall) (Convention Center)

[H31H](#)

[Precipitation and Hydrometeorological Processes Through the Eyes of Machine Learning and Advanced Statistics II eLightning](#)

Dr. Veljko Petković, University of Maryland, College Park, ESSIC/CISESS, College Park, United States, **Pierre Kirstetter**, NOAA/National Severe Storms Laboratory, Norman, United States; University of Oklahoma Norman Campus, School of Meteorology and School of Civil Engineering and Environmental Science, Norman, United States, Dr. Shruti Ashok Upadhyaya, Ph.D., Indian Institute of Technology Hyderabad, Department of Civil Engineering, Hyderabad, India and Ardeshir Ebtehaj, Georgia Institute of Technology Main Campus, Atlanta, United States

Session Proposal

- Wednesday, 11 December 2024
- 08:30 – 10:00
- eLightning Theater 2 (Convention Center)

[NS34A](#)

[Geophysical Characterization and Monitoring of Natural Hazards II Oral](#)

Sebastian Uhlemann, Lawrence Berkeley National Laboratory, Berkeley, United States, **Sina Saneiyan**, University of Oklahoma, School of Geosciences, Norman, OK, United States and Xavier Comas, Florida Atlantic University, Geosciences, Boca Raton, FL, United States

Session Proposal

- Wednesday, 11 December 2024
- 16:00 – 17:30
- 146 A (Convention Center)

[A31A](#)

[Advanced AI/ML for High-Impact Weather Prediction and Observation I Poster](#)

Jiaxi Hu, Cooperative Institute for Severe and High-Impact Weather Research and Operations, University of Oklahoma, and NOAA/OAR National Severe Storms Laboratory, Norman, Oklahoma, Norman, United States, Yixin Wen, University of Florida, Department of Geography, Gainesville, United States, Xiaoming Shi, The Hong Kong University of Science and Technology, Hong Kong, China and Hui Su, The Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong

Session Proposal

- Wednesday, 11 December 2024
- 08:30 – 12:20
- Hall B-C (Poster Hall) (Convention Center)

[GC31F](#)

[Earth Systems Predictability Across Timescales for Climate Security: Grand Challenges and Recent Advancements I Oral](#)

Jadwiga Richter, U. S. National Science Foundation National Center for Atmospheric Research, Boulder, United States, Kathleen Pegion, George Mason University, Fairfax, VA, United States, Zhaoxia Pu, University of Utah, Salt Lake City, UT, United States, Kate A Brauman, University of Alabama, Global Water Security Center, Tuscaloosa, AL, United States and **Gabrielle Brown**, University of Oklahoma, School of Meteorology, Norman, United States

Session Proposal

- Wednesday, 11 December 2024
- 08:30 – 10:00
- Salon G (Convention Center)

[H31T](#)

[Precipitation and Hydrometeorological Processes Through the Eyes of Machine Learning and Advanced Statistics I Poster](#)

Dr. Veljko Petković, University of Maryland, College Park, ESSIC/CISESS, College Park, United States, **Pierre Kirstetter**, NOAA/National Severe Storms Laboratory, Norman, United States; University of Oklahoma Norman Campus, School of Meteorology and School of Civil Engineering and Environmental Science, Norman, United States, Dr. Shruti Ashok Upadhyaya, Ph.D., Indian Institute of Technology Hyderabad, Department of Civil Engineering, Hyderabad, India and Ardeshir Ebtehaj, Georgia Institute of Technology Main Campus, Atlanta, United States

Session Proposal

- *Wednesday, 11 December 2024*
- *08:30 – 12:20*
- *Hall B-C (Poster Hall) (Convention Center)*

[H34H](#)

[Precipitation and Hydrometeorological Processes Through the Eyes of Machine Learning and Advanced Statistics III Oral](#)

Dr. Veljko Petković, University of Maryland, College Park, ESSIC/CISESS, College Park, United States, Dr. Shruti Ashok Upadhyaya, Ph.D., Indian Institute of Technology Hyderabad, Department of Civil Engineering, Hyderabad, India, **Pierre Kirstetter**, NOAA/National Severe Storms Laboratory, Norman, United States; University of Oklahoma Norman Campus, School of Meteorology and School of Civil Engineering and Environmental Science, Norman, United States and Ardeshir Ebtehaj, Georgia Institute of Technology Main Campus, Atlanta, United States

Session Proposal

- *Wednesday, 11 December 2024*
- *16:00 – 17:30*
- *103 A-B (Convention Center)*

[A31B](#)

[Advances in Cloud and Precipitation Processes: Integrating Observations, Modeling, and Theory I Poster](#)

Dr. Yongjie Huang, PhD, University of Oklahoma Norman Campus, Center for Analysis and Prediction of Storms (CAPS), Norman, United States, Chunsong Lu, Nanjing University of Information Science and Technology (NUIST), Nanjing, China, Peng Wu, Pacific Northwest National Laboratory, Richland, WA, United States, Xiaojian Zheng, Argonne National Laboratory, Argonne, United States, Yi Huang, The University of Melbourne, School of Geography, Earth and Atmospheric Sciences and ARC Centre of Excellence for Climate Extremes, Melbourne, Australia, Yangang Liu, Brookhaven National Laboratory, Upton, NY, United States, Timothy Logan, Texas A&M University, College Station, United States, **Greg M McFarquhar**, Cooperative Institute for Severe and High-Impact Weather Research and Operations, University of Oklahoma, Norman, United States, Jianhao Zhang, National Oceanic and Atmospheric Administration (NOAA), Chemical Sciences Laboratory, Boulder, United States, Chuanfeng Zhao, Peking University, Department of Atmospheric and Oceanic Sciences, Beijing, China and Jingjing Tian, Pacific Northwest National Laboratory, Atmospheric Research & Measurements, Richland WA, United States

Session Proposal

- *Wednesday, 11 December 2024*
- *08:30 – 12:20*
- *Hall B-C (Poster Hall) (Convention Center)*

B31B

Characterizing the Environmental Impacts of Active, Abandoned, and Orphaned Oil and Gas Wells, Locating Undocumented Orphaned Wells, and Prioritizing Plugging I Oral

Margaret Coleman, Environmental Defense Fund, New York, United States, Andrew Govert, U.S. Department of Energy, Office of Fossil Energy and Carbon Management, Washington DC, United States, Greg Lackey, National Energy Technology Laboratory Pittsburgh, Pittsburgh, PA, United States, Nicholas J. Gianoutsos, U.S. Geological Survey, Central Energy Resources Science Center, Denver, United States and **Sina Saneiyan**, University of Oklahoma, School of Geosciences, Norman, OK, United States

Session Proposal

- *Wednesday, 11 December 2024*
- *08:30 – 10:00*
- *152 A (Convention Center)*

Influence of the Pacific and Atlantic Oceans on precipitation variability over the southeastern United States

Priyanshi Singhai¹, **Kathleen Pegion**¹, Akintomide A Akinsanola², Bohar Singh³ and Thierry Taguela Ndetatsin⁴, (1)University of Oklahoma Norman Campus, School of Meteorology, Norman, United States, (2)University of Illinois at Chicago, Earth and Environmental Science, Chicago, IL, United States, (3)Climate Prediction Center College Park, College Park, United States, (4)University of Chicago, Chicago, United States

Abstract

- *Wednesday, 11 December 2024*
- *13:40 – 17:30*
- *Hall B-C (Poster Hall) (Convention Center)*

Sources of Predictability for Subseasonal Precipitation in South America

Kathleen Pegion, University of Oklahoma Norman Campus, School of Meteorology, Norman, United States, Emily J Becker, University of Miami, Coral Gables, United States and Ben P Kirtman, University of Miami, Rosenstiel School of Marine and Atmospheric Science, Department of Atmospheric Sciences, Miami, United States

Abstract

- *Wednesday, 11 December 2024*
- *13:40 – 17:30*
- *Hall B-C (Poster Hall) (Convention Center)*

Microclimate Variation, Mosquito Distributions, and Urban Transmission of Dengue and Malaria in Two Indian Cities

Michael C Wimberly¹, **Yusuf Jamal**¹, **Eric Bump**¹, **Ryan Penic**¹, Rajendra Baharia², Vikas Desai³, Vijay Kohli⁴, Ajeet Mohanti⁵, Mercedes Pascual⁶, Rajesh Sharma⁴, Sachin Sharma⁷, Keshav Vaishnav⁸ and Courtney C Murdock⁹, (1)University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, United States, (2)National Institute of Malaria Research, Nadiad, India, (3)Vesu Urban Health Centre, Surat, India, (4)Ahmedabad Municipal Corporation Health Department, Ahmedabad, India, (5)National Institute of Malaria Research, Panaji, India, (6)New York University, New York, United States, (7)National Institute of Malaria Research, Dwarka, India, (8)Surat Municipal Corporation Vector Borne Diseases Control Department, Surat, India, (9)Cornell University, Department of Entomology, Ithaca, United States

Abstract

- *Wednesday, 11 December 2024*
- *13:40 – 17:30*
- *Hall B-C (Poster Hall) (Convention Center)*

IN32A-03

[Creating ethical and trustworthy AI for weather and Earth systems](#)

Amy McGovern, University of Oklahoma, Computer Science; School of Meteorology, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 10:45 – 10:55
- Marquis 3-4 (Marriot Marquis)

[Projecting Future Malaria Transmission in South Asia: The Role of Humidity in Climate Change-Driven Disease Models](#)

Eric Bump¹, Courtney C Murdock², Vimal Mishra³ and Michael C Wimberly¹, (1)University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, United States, (2)Cornell University, Department of Entomology, Ithaca, United States, (3)Indian Institute of Technology Gandhinagar, Department of Civil Engineering, Gandhinagar, India

Abstract

- Wednesday, 11 December 2024
- 13:40 – 17:30
- Hall B-C (Poster Hall) (Convention Center)

[MODFLOW Modeling Analysis of Groundwater Management Measures Considering Future Climate Impacts: A Case Study of the Edwards Balcones Fault Zone Aquifer](#)

Changbing Yang¹, Logan Schmidt¹, F. Paul Bertetti¹, Hakan Basagaoglu¹ and Adrienne Wootten², (1)Edwards Aquifer Authority, San Antonio, TX, United States, (2)South Central Climate Adaptation Science Center, University of Oklahoma, Norman, OK, United States

Abstract

- Wednesday, 11 December 2024
- 08:30 – 12:20
- Hall B-C (Poster Hall) (Convention Center)

[Quantifying Multi-decadal Land Cover Change and Projecting Agricultural Suitability in San Martin, Peru](#)

Zachary Scott Brecheisen¹, Julio Alegre², Darrell G Schulze³, Timothy R Filley⁴, Camilo Barrios Barrios Pérez⁵, David S Ebert⁶, Wolfgang Jentner⁶ and Jennifer Koch⁷, (1)The University of Oklahoma, Norman, United States, (2)Universidad Nacional Agraria La Molina, Lima, Peru, (3)Purdue University, West Lafayette, United States, (4)The University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, United States, (5)Alliance Biodiversity - CIAT, Bogotá, Colombia, (6)University of Oklahoma Norman Campus, Norman, United States, (7)University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, OK, United States

Abstract

- Wednesday 11, December 2024
- 08:30 – 12:20
- Hall B-C (Poster Hall) (Convention Center)

[Observed relationships between aerosol, meteorological, dynamical and cloud microphysical properties during ESCAPE](#)

Greg M McFarquhar¹, Saurabh Patil¹, Yongjie Huang², Mengistu Wolde³, Cuong Nguyen⁴, Keyvan Ranjbar⁴, Leonid Nichman⁵, Natalia Bliankinshtein⁶, Kenny Bala⁵, Gregory C Roberts⁷, Pavlos Kollias⁸ and Zackary Mages⁸, (1)Cooperative Institute for Severe and High-Impact Weather Research and Operations, University of Oklahoma, Norman, United States, (2)School of Meteorology, University of Oklahoma, Norman, OK, United States, (3)National Research Council Canada, Flight Research Laboratory, Ottawa, ON, Canada, (4)National Research Council Canada, Ottawa, ON,

Canada, (5)National Research Council Canada, Ottawa, Canada, (6)McGill University, Montreal, QC, Canada, (7)Scripps Institution of Oceanography, La Jolla, CA, United States, (8)Stony Brook University, Stony Brook, NY, United States

Abstract

- *Wednesday, 11 December 2024*
- *08:30 – 12:20*
- *Hall B-C (Poster Hall) (Convention Center)*

[A34I-03](#)

[Analysis of Conditions Suitable for Chlorine Activation in the Midlatitude UTLS during DCOTSS and the Possible Risk Imposed by Future Geoengineering](#)

Laila Howar¹, Ross J Salawitch², David M Wilmouth³, Eric J Hints⁴, Elliot L Atlas⁵, Jennifer S Hare³, Marco Rivero³, Sue Schauffler⁶, Norton Allen⁷, Kate Smith⁵, Stephen Donnelly⁵, Leslie Pope⁸, Brad David Hall⁹, Geoffrey S Dutton¹⁰, Fred L Moore⁴, James W Elkins¹¹, Jessica B Smith¹², John Dykema¹³, Yaowei Li⁷, Thomas F Hanisco¹⁴, Jason M St Clair¹⁵, Erin Delaria¹⁶, Thaopaul V Bui¹⁷, Jonathan M Dean-Day¹⁸, Jon David Nance¹⁰, Apoorva Pandey³, David S Sayres⁷, Frank N Keutsch³, **Cameron R Homeyer¹⁹**, Kenneth Paul Bowman²⁰ and The DCOTSS Science Team, (1)University of Maryland College Park, College Park, MD, United States, (2)University of Maryland, AOSC and Chemistry, College Park, United States, (3)Harvard University, Cambridge, United States, (4)Cooperative Institute for Research in Environmental Sciences (CIRES), Boulder, United States, (5)University of Miami, Miami, United States, (6)Natl Ctr Atmospheric Research, Boulder, United States, (7)Harvard University, Cambridge, MA, United States, (8)University of Miami, Miami, FL, United States, (9)NOAA, Global Monitoring Laboratory, Boulder, United States, (10)Cooperative Institute for Research in Environmental Sciences (CIRES), NOAA/GML, Boulder, United States, (11)University of Colorado at Boulder, CIRES, Boulder, United States, (12)Harvard Univ/Anderson Group, Cambridge, United States, (13)Harvard University, School of Engineering and Applied Sciences, Cambridge, United States, (14)NASA Goddard Space Flight Center, Greenbelt, United States, (15)University of Maryland Baltimore County, Baltimore, United States, (16)NASA Goddard Space Flight Center, Atmospheric Chemistry and Dynamics Laboratory, Greenbelt, United States, (17)NASA Ames Research Center, Moffett Field, CA, United States, (18)Bay Area Environmental Research Institute, Moffett Field, United States, (19)University of Oklahoma, School of Meteorology, Norman, OK, United States, (20)Texas A&M University, Atmospheric Sciences, College Station, United States

Abstract

- *Wednesday, 11 December 2024*
- *16:06 – 16:09*
- *eLightning Theater 1 (Convention Center)*

[B33K-04](#)

["From Fertilizer to Atmosphere: Mapping Wetland Denitrification Dynamics in the Mississippi Basin"](#)

Columba Martínez Espinosa, Institut de recherche de la Tour Du Valat, Arles, France, Charles J Vorosmarty, Advanced Science Research Center at the Graduate Center, CUNY, Environmental Sciences Initiative, New York, United States, Peter Groffman, CUNY Advanced Science Research Center and Brooklyn College Department of Earth and Environmental Sciences, New York, United States, Nicolas Maxfield, CUNY Advanced Science Research Center at The Graduate Center, Environmental Sciences Initiative, New York, United States, Jonathan E Hickman, NASA Goddard Institute for Space Studies, New York, NY, United States, Kyle C. McDonald Dr., CUNY City College of New York, NY, USA, Department of Earth and Atmospheric Sciences, New York, United States, Maria Tzortziou, Columbia University of New York, New York, United States, Nick Steiner, City College of New York, New York, NY, USA, Department of Earth and Atmospheric Sciences, New York, United States, Dianne Greenfield, CUNY, Advanced Science Research Center, New York, United States, Anthony D Cak, Advanced Science Research Center at The Graduate Center, CUNY, Environmental Sciences Initiative, New York, United States, Fabio Corsi, CUNY City College of New York, New York,

United States, **Yang Hong**, University of Oklahoma, School of Civil Engineering and Environmental Science, Norman, United States, Atul K Jain, University of Illinois at Urbana Champaign, Urbana, United States and C-FrAMES

Abstract

- *Wednesday, 11 December 2024*
- *14:46 – 14:56*
- *151 B (Convention Center)*

[GC34A-02](#)

[NASA's Surface Biology and Geology as an Earth Science to Action mission](#)

Christine M Lee¹, Africa Ixmucane Flores Anderson², Dana Chadwick³, Christiana Ade⁴, Madeleine Pascolini-Campbell³, Jeffrey C Luvall⁵, Stephanie Schollaert Uz⁶, Kelly Luis⁷, Ayia Lindquist⁸, Clayton Elder³, **Mahsa Jami**⁹, Erik Bolch¹⁰, Aaron M Friesz¹¹, Robert O Green¹², Simon J Hook¹³, David R Thompson¹², Kerry Cawse-Nicholson³, Michelle M Gierach¹⁴, David Schimel³ and John T Reager II¹⁵, (1)NASA Jet Propulsion Laboratory, Water and Ecosystems, Pasadena, CA, United States, (2)University of Alabama in Huntsville, Earth System Science Center, Huntsville, United States, (3)Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States, (4)North Carolina State University Raleigh, Raleigh, United States, (5)NASA/NSSTC, Huntsville, United States, (6)NASA Goddard Space Flight Center, Earth Sciences Division, Greenbelt, MD, United States, (7)University of Massachusetts Boston, Dorchester, United States, (8)Science Systems and Applications, Inc., Lanham, MD, United States, (9)University of Oklahoma Norman Campus, Geography and Environmental Sustainability, Norman, United States, (10)USGS Earth Resources Observation and Science (EROS) Center Sioux Falls, Sioux Falls, United States, (11)Organization Not Listed, Washington, United States, (12)NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, United States, (13)NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States, (14)NASA Jet Propulsion Laboratory, Pasadena, United States, (15)NASA Jet Propulsion Laboratory, Pasadena, CA, United States

Abstract

- *Wednesday, 11 December 2024*
- *16:10 – 16:20*
- *Salon C (Convention Center)*

[H31C-07](#)

[Evaluating the Skill of Subseasonal-to-Seasonal Streamflow Forecasts with a case study of 24 Snow-dominated and Non-snow-dominated watersheds across CONUS](#)

Aayush Adhikari, **Lujun Zhang** and **Tiantian Yang**, University of Oklahoma Norman Campus, School of Civil Engineering and Environmental Science, Norman, United States

Abstract

- *Wednesday, 11 December 2024*
- *09:35 – 09:45*
- *144 A-C (Convention Center)*

[Identifying Multiscale Basin Management Challenges and Current Research Priorities based on Topic Modeling of the Mississippi River Basin](#)

Joshua Wimbhurst, University of Oklahoma, South Central Climate Adaptation Science Center, Norman, United States, **Jennifer Koch**, University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, OK, United States and **Renee A McPherson**, University of Oklahoma, South Central Climate Adaptation Science Center, Norman, United States

Abstract

- *Wednesday, 11 December 2024*
- *08:30 – 12:20*
- *Hall B-C (Poster Hall) (Convention Center)*

[TASZERS Findings Energize ARM Cloud Retrievals](#)

Connor J. Flynn, University of Oklahoma Norman Campus, Norman, United States, Stephen H Jones, Aerodyne Research Inc., Billerica, MA, United States, Zachary Payne, Aerodyne Research, Inc., Billerica, United States and Timothy Bruce Onasch, Aerodyne Research, Inc., Billerica, MA, United States

Abstract

- Wednesday, 11 December 2024
- 08:00 – 17:30
- iPoster Gallery (Online)

[GP34A-01](#)

[Paleogeography and Low oxygen may have boosted global iron deposition after the Great Oxidation Event](#)

Athena Eyster, Tufts University, Medford, United States, Latisha Ashley Brengman, University of Minnesota Duluth, Earth and Environmental Sciences, Duluth, MN, United States, Kristin Bergmann, Massachusetts Institute of Technology, Earth, Atmospheric, and Planetary Sciences, Cambridge, MA, United States, Jahandar Ramezani, MIT-EAPS, Cambridge, MA, United States and Sarah George, University of Oklahoma Norman Campus, Geosciences, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 16:00 – 16:12
- 202 B (Convention Center)

[H32A-01](#)

[PFAS in Global Waters: Occurrence, Environmental Burden and the Known Unknowns](#)

Denis M O'Carroll¹, Diana Ackerman Grunfeld², Matthew Lee¹, Daniel Gilbert² and Tohren C G Kibbey³, (1)School of Civil and Environmental Engineering, UNSW Sydney, Australia, Sydney, Australia, (2)University of New South Wales, Sydney, Australia, (3)University of Oklahoma Norman Campus, Norman, OK, United States

Abstract

- Wednesday, 11 December 2024
- 10:20 – 10:30
- 145 A (Convention Center)

[Exploring the Mechanisms and Potential of UNet 3+ in Spatiotemporal Gap-Filling of NASA Satellite-Derived-AOD in North America](#)

Jeffrey Lee, University of Oklahoma, School of Meteorology, Norman, United States and Sandra Marcela Loria Salazar, University of Oklahoma Norman Campus, School of Meteorology, Norman, OK, United States

Abstract

- Wednesday, 11 December 2024
- 08:30 – 12:20
- Hall B-C (Poster Hall) (Convention Center)

[Optimizing Laboratory Measurements for Below-Ground Soil CO₂ Isotopes](#)

Martha Jimenez-Castaneda¹, Janine Sparks¹, Jordan Jones¹ and Timothy R Filley², (1)The University of Oklahoma, Norman, United States, (2)The University of Oklahoma, Department of Geography and Environmental Sustainability, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 08:00 – 17:30

- *iPoster Gallery (Online)*

[Empowering Climate Communicators: The Climate Consensus's Role in Supporting Climate Engagement and Outreach](#)

Gabrielle Brown, University of Oklahoma, School of Meteorology, Norman, United States, Austin Reed, George Mason University, Fairfax, United States, Allison LaFleur, RoVolus, LLC, Massachusetts, United States, Andrew Westgate, Vermont State University, Lyndonville, United States, Gerard Falco, The Climate Consensus, Inc., St. Johnsbury, United States, Janel Hanrahan, RTI International, Research Triangle Park, United States, Amelia Roosevelt, Bedford 2030, Katonah, United States and Carlisle Wishard, Evansville Museum of Arts, History, and Science, Evansville, United States

Abstract

- *Wednesday, 11 December 2024*
- *08:30 – 12:20*
- *Hall B-C (Poster Hall) (Convention Center)*

[A framework for creating a next generation probabilistic gridded precipitation dataset for CONUS](#)

Guoqiang Tang¹, Andy Wood¹, Andrew James Newman¹ and **Pierre-Emmanuel Kirstetter**², (1)NSF National Center for Atmospheric Research, Boulder, United States, (2)University of Oklahoma, School of Meteorology and School of Civil Engineering and Environmental Science, Norman, United States

Abstract

- *Wednesday, 11 December 2024*
- *13:40 – 17:30*
- *Hall B-C (Poster Hall) (Convention Center)*

[Comparison of leaf phenology of a large cottonwood tree estimated by surface reflectance bands and vegetation indices from time series PlanetScope and Sentinel-2 images](#)

Baihong Pan¹, **Xiangming Xiao**², **Li Pan**³, **Yuan Yao**⁴, **Cheng Meng**⁵, **Yanhua Xie**⁶, **Chenchen Zhang**¹ and **Yuanwei Qin**⁴, (1)School of Biological Sciences, Center for Earth Observation and Modeling, University of Oklahoma, Norman, United States, (2)University of Oklahoma Norman Campus, School of Biological Sciences, Center for Earth Observation and Modeling, Norman, United States, (3)University of Oklahoma, School of Biological Sciences, Norman, United States, (4)Department of Microbiology and Plant Biology, Center for Earth Observation and Modeling, University of Oklahoma, Norman, United States, (5)University of Oklahoma Norman Campus, School of Biological Sciences, Norman, United States, (6)University of Oklahoma, Geography and Environmental Sustainability, Norman, United States

Abstract

- *Wednesday, 11 December 2024*
- *08:30 – 12:20*
- *Hall B-C (Poster Hall) (Convention Center)*

[The Impact of Anthropause During COVID-19 on the Activity of Avian Influenza Host Birds](#)

Qiang Zhang^{1,2}, Jinwei Dong¹ and **Xiangming Xiao**³, (1)Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China, (2)University of Chinese Academy of Sciences, Beijing, China, (3)University of Oklahoma Norman Campus, School of Biological Sciences, Center for Earth Observation and Modeling, Norman, United States

Abstract

- *Wednesday, 11 December 2024*
- *08:00 – 17:30*
- *iPoster Gallery (Online)*

[AE32A-03](#)

[Geostationary Lightning Mapper Validation of Thunderstorm 'First-Flashes'](#)

Kevin Thiel^{1,2}, Kristin M Calhoun³, Michael Stock^{4,5}, Jacquelyn Ringhausen⁶, Sarah M. Stough⁷ and Vanna Chmielewski⁵, (1)University of Oklahoma, Cooperative Institute For Severe and High-Impact Weather Research and Operations, Norman, United States, (2)National Weather Service Storm Prediction Center, Norman, United States, (3)National Severe Storms Lab Norman, Norman, OK, United States, (4)Cooperative Institute for Severe and High-Impact Weather Research and Operations, Norman, United States, (5)NOAA / OAR / National Severe Storms Laboratory, Norman, United States, (6)AEM, Research & Development, Germantown, United States, (7)University of Oklahoma, Cooperative Institute for Severe and High-Impact Weather Research and Operations, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 10:40 – 10:50
- University of DC & Catholic (Marriott Marquis)

[B34D-09](#)

[PANGEA – an update on a scoping study for a NASA tropical forest terrestrial ecology campaign](#)

Elsa Ordway¹, Isaac Aguilar², Anabelle Cardoso³, Dana Chadwick⁴, Temilola Fatoyinbo⁵, Antonio Ferraz⁶, Yanlei Feng⁷, Adia Bey⁸, Ane Alencar⁹, Jose D Fuentes¹⁰, Liane S Guild¹¹, Matthew S Johnson¹², Michael Keller¹³, Lydie Stella Koutika¹⁴, Yue Li¹⁵, Junjie Liu⁴, Marcos Longo¹⁶, Ian Mccubbin⁶, Félicien Meunier¹⁷, Charles E Miller¹⁸, Helene C Muller-Landau¹⁹, Patrick Namulisa²⁰, Robinson I Negrón Juárez²¹, Teodyl Nkuintchua²², Matheus Nunes²³, Zoe Pierrat⁶, Le Bienfaiteur Sagang Takougoum²⁴, Maria J. Santos²⁵, Fabian D Schneider⁶, Bonaventure Sonké²⁶, Hannah Stouter¹⁵, César Terres²⁷, Marius von Essen¹⁵, Michelle Wong²⁸, Sarah R Worden¹⁵ and Xiangming Xiao²⁹, (1)University of California Los Angeles, Los Angeles, CA, United States, (2)University of California Los Angeles, Department of Ecology and Evolutionary Biology, Los Angeles, United States, (3)University at Buffalo, Buffalo, United States, (4)Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States, (5)NASA GSFC, Biospheric Science, Greenbelt, United States, (6)JPL/NASA/Caltech, Pasadena, United States, (7)University of California Berkeley, Berkeley, United States, (8)NASA Goddard Space Flight Center, Greenbelt, United States, (9)IPAM Amazon Environmental Research Institute, Brasilia, Brazil, (10)Penn State University, University Park, United States, (11)NASA Ames Res Ctr, Moffett Field, United States, (12)Earth Science Division, NASA Ames Research Center, Moffett Field, CA, United States, (13)USDA Forest Service, Rio Piedras, United States, (14)CRDPI, Pointe-Noire, People's Republic Of Congo, (15)University of California Los Angeles, Los Angeles, United States, (16)Lawrence Berkeley National Laboratory, Berkeley, United States, (17)Université Catholique de Louvain, Louvain-La-Neuve, Belgium, (18)California Institute of Technology, Jet Propulsion Laboratory, Pasadena, United States, (19)Smithsonian Tropical Research Institute, Balboa, Panama, (20)Columbia University of New York, Palisades, United States, (21)Lawrence Berkeley Natl Lab, Berkeley, United States, (22)World Resources Institute, Kinshasa, Congo, (23)University of Maryland College Park, College Park, United States, (24)University of California, Los Angeles, United States, (25)University of Zurich, Department of Geography, Zurich, Switzerland, (26)University of Yaoundé, Yaoundé, Cameroon, (27)Massachusetts Institute of Technology, Cambridge, United States, (28)Yale University, New Haven, United States, (29)University of Oklahoma Norman Campus, School of Biological Sciences, Center for Earth Observation and Modeling, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 17:20 – 17:30
- 150 B (Convention Center)

[GC31F-06](#)

[Developing a Framework for Evaluating Sources of Predictability for Extreme Events on Subseasonal Timescales in Southeast Asia & Latin America](#)

Gabrielle Brown, University of Oklahoma, School of Meteorology, Norman, United States and Kathleen Pegion, University of Oklahoma Norman Campus, School of Meteorology, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 09:20 – 09:30
- Salon G (Convention Center)

[H31H08](#)

[Fingerprinting the Signatures of Multi-Layered Precipitation Systems in Satellite Observations](#)

Malarvizhi Arulraj, University of Maryland College Park, Cooperative Institute for Satellite Earth System Studies, College Park, MD, United States, Dr. Veljko Petković, University of Maryland, College Park, ESSIC/CISESS, College Park, United States, Dr. Shruti Ashok Upadhyaya, Ph.D., Indian Institute of Technology Hyderabad, Department of Civil Engineering, Hyderabad, India; University of Oklahoma, Advanced Radar Research Center (ARRC), Norman, United States, Huan Meng, Natl Oceanic & Atmospheric Adm, College Park, United States and Ralph Ferraro, University of Maryland College Park, College Park, United States

Abstract

- Wednesday, 11 December 2024
- 08:51 – 08:54
- eLightning Theater 2 (Convention Center)

[Exploring the Mechanisms and Potential of UNet 3+ in Spatiotemporal Gap-Filling of NASA Satellite-Derived-AOD in North America](#)

Jeffrey Lee, University of Oklahoma, School of Meteorology, Norman, United States and **Sandra Marcela Loria Salazar**, University of Oklahoma Norman Campus, School of Meteorology, Norman, OK, United States

Abstract

- Wednesday, 11 December 2024
- 08:30 – 12:20
- Hall B-C (Poster Hall) (Convention Center)

[B34D-08](#)

[Understanding the vulnerability of the tropical carbon sink requires unraveling heterogeneous tropical forest responses to change](#)

Elsa Ordway¹, **Isaac Aguilar**², **Anabelle Cardoso**³, **K. Dana Chadwick**⁴, **Temilola Fatoyinbo**⁵, **Antonio Ferraz**⁶, **Yanlei Feng**⁷, **Adia Bey**⁸, **Ane Alencar**⁹, **Jose D Fuentes**¹⁰, **Liane S Guild**¹¹, **Matthew S Johnson**¹², **Michael Keller**¹³, **Lydie Stella Koutika**¹⁴, **Yue Li**¹⁵, **Junjie Liu**¹⁶, **Marcos Longo**¹⁷, **Ian Mccubbin**⁶, **Félicien Meunier**¹⁸, **Charles E Miller**¹⁹, **Helene C Muller-Landau**²⁰, **Patrick Namulisa**²¹, **Robinson I Negrón Juárez**²², **Teodyl Nkuintchua**²³, **Matheus Nunes**²⁴, **Zoe Pierrat**⁶, **Le Bienfaiteur Sagang Takougoum**²⁵, **Maria J. Santos**²⁶, **Fabian D Schneider**⁶, **Bonaventure Sonké**²⁷, **Hannah Stouter**¹⁵, **César Terrer**²⁸, **Marius von Essen**¹⁵, **Michelle Wong**²⁹, **Sarah R Worden**¹⁵ and **Xiangming Xiao**³⁰, (1)University of California Los Angeles, Los Angeles, CA, United States, (2)University of California Los Angeles, Department of Ecology and Evolutionary Biology, Los Angeles, United States, (3)University at Buffalo, Buffalo, United States, (4)NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States, (5)NASA GSFC, Biospheric Science, Greenbelt, United States, (6)JPL/NASA/Caltech, Pasadena, United States, (7)University of California Berkeley, Berkeley, United States, (8)NASA Goddard Space Flight Center, Greenbelt, United States, (9)IPAM Amazon Environmental Research Institute, Brasilia, Brazil, (10)Penn State University, University Park, United States, (11)NASA Ames Res Ctr, Moffett Field, United States, (12)Earth Science Division, NASA Ames

Research Center, Moffett Field, CA, United States, (13)USDA Forest Service, Rio Piedras, United States, (14)CRDPI, Pointe-Noire, People's Republic Of Congo, (15)University of California Los Angeles, Los Angeles, United States, (16)Jet Propulsion Laboratory, California Institute of Technology, Pasadena, United States, (17)Lawrence Berkeley National Laboratory, Berkeley, United States, (18)Université Catholique de Louvain, Louvain-La-Neuve, Belgium, (19)California Institute of Technology, Jet Propulsion Laboratory, Pasadena, United States, (20)Smithsonian Tropical Research Institute, Balboa, Panama, (21)Columbia University of New York, Palisades, United States, (22)Lawrence Berkeley Natl Lab, Berkeley, United States, (23)World Resources Institute, Kinshasa, Congo, (24)University of Maryland College Park, College Park, United States, (25)University of California, Los Angeles, United States, (26)University of Zurich, Department of Geography, Zurich, Switzerland, (27)University of Yaoundé, Yaoundé, Cameroon, (28)Massachusetts Institute of Technology, Cambridge, United States, (29)Yale University, New Haven, United States, (30)University of Oklahoma Norman Campus, School of Biological Sciences, Center for Earth Observation and Modeling, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 17:10 – 17:20
- 150 B (Convention Center)

[GC31L-07](#)

[Persistent and enhanced carbon sequestration capacity of alpine grasslands on the Earth's Third Pole](#)

Prof. Yuyang Wang, PhD, CAU China Agricultural University, Beijing, China, Jingfeng Xiao, University of New Hampshire, Institute for the Study of Earth, Oceans, and Space, Earth Systems Research Center, Durham, United States, Yaoming Ma, Chinese Academy of Sciences, Institute of Tibetan Plateau Research, Beijing, China, Xuelong Chen, Institute of Tibetan Plateau Research, Chinese Academy of Sciences, Land-Atmosphere Interaction and its Climatic Effects Group, State Key Laboratory of Tibetan Plateau Earth System, Environment and Resources (TPESER), Beijing, China and Yiqi Luo, University of Oklahoma Norman Campus, Department of Microbiology and Plant Biology, Norman, United States

Abstract

- Wednesday, 11 December 2024
- 08:48 – 08:51
- eLightning Theater 1 (Convention Center)

[H34D-05](#)

[Long-term Projections of Meteorological and Groundwater Droughts Using Explainable Artificial Intelligence and Statistically Downscaled Climate Data](#)

Hakan Basagaoglu¹, F. Paul Bertetti¹, Adrienne Wootten², Debaditya Chakraborty³, Chetan Sharma³, Logan Schmidt¹, Icen Yoosefdoost³, Changbing Yang¹, Maryam Samimi¹ and Ali Mirchi⁴, (1)Edwards Aquifer Authority, San Antonio, TX, United States, (2)South Central Climate Adaptation Science Center, University of Oklahoma, Norman, OK, United States, (3)University of Texas at San Antonio, School of Civil and Environmental Engineering, and Construction Management, San Antonio, TX, United States, (4)Oklahoma State University, Biosystems and Agricultural Engineering, Stillwater, OK, United States

Abstract

- Wednesday, 11 December 2024
- 17:00 – 17:15
- 144 A-C (Convention Center)

[H34H-06](#)

[A Benchmark Dataset for Satellite Precipitation Retrievals](#)

Simon Pfreunds Schuh, Colorado State University, Fort Collins, United States, Tomoo Ushio, Osaka University, Division of Electrical, Electronic, and Infocommunications Engineering, Osaka, Japan, Jackson Tan, NASA Goddard Space Flight Center, Greenbelt, MD, United States, Dr. Veljko Petković, Colorado State University, Dept. of Atmospheric Science, Fort Collins, United States, Malarvizhi Arulraj, University of Maryland, Earth System Science Interdisciplinary Center (ESSIC) / CISESS, College Park, MD, United States, Pierre-Emmanuel Kirstetter, University of Oklahoma, School of Meteorology and School of Civil Engineering and Environmental Science, Norman, United States, Ali Behrangi, University of Arizona, Department of Hydrology and Atmospheric Sciences, Tucson, United States and Machine Learning Working Group of the International Precipitation Working Group
Abstract

- Wednesday, 11 December 2024
- 17:15 – 17:30
- 103 A-B (Convention Center)